

DEPARTMENT OF TRANSPORTATION**DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-012636**Date Inspected:** 12-Mar-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 630**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1500**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site

CWI Name:	Bernard Docena, Jesse Cayabayab, CWI Presingham			Yes	No	
Inspected CWI report:	Yes	No	N/A	Rod Oven in Use:	Yes	No N/A
Electrode to specification:	Yes	No	N/A	Weld Procedures Followed:	Yes	No N/A
Qualified Welders:	Yes	No	N/A	Verified Joint Fit-up:	Yes	No N/A
Approved Drawings:	Yes	No	N/A	Approved WPS:	Yes	No N/A
				Delayed / Cancelled:	Yes	No N/A
Bridge No:	34-0006			Component:	SAS OBG 1E/2E-C,D 2E/3E-D	

Summary of Items Observed:

The Quality Assurance (QA) Inspector, Rick Bettencourt was on site at the job site between the times noted above. The QA Inspector was on site to randomly observe the in process welding and inspection of the weld joints identified as 1E/2E-C and 2E/3E-D the following observations were made:

2E/3E-D

Upon the arrival of the QA Inspector it was observed the above identified weld joint was previously started with flux cored arc welding (FCAW) tack welds and submerged arc welding root/fill/cover passes. Upon the arrival of the QA Inspector it was noted the majority of the weld joint was completed with a cover pass from the center of the joint outward. The QA Inspector randomly observed the only remaining weld to be completed were at the ends of the weld joint, where the SAW machines could not reach. It was noted the ABF welder were utilizing FCAW at the ends of the welds to complete the welding. The QA Inspector noted approximately 200cm at each end of the weld joints were in process. The QA Inspector randomly observed the minimum required preheat of 150°F was achieved utilizing induction heat blankets prior to the ABF welder performing welding. The QA Inspector verified the minimum required preheat utilizing a temperature indicating marker. The QA Inspector observed the Smith Emery (SE) Quality Control (QC) Inspector Bnifacio Daquinag was present at the above identified location to monitor and observed the in process welding. The QA Inspector randomly observed the FCAW parameters being utilized by the ABF welder James Zhen and they were 279 Amps, 23.6 Volts and a travel speed of 240mm/min. The QA Inspector randomly observed the FCAW parameters being utilized by the ABF welder Song Tao Huang and they were 260 Amps, 23.6 Volts and a travel speed of 265mm/min. The QA Inspector noted the FCAW parameters were consistent with the approved parameters of the ABF-WPS-D1.5-3040B-1. The QA Inspector randomly observed rain water had entered the weld zone while the material was approximately 255°F. The QA

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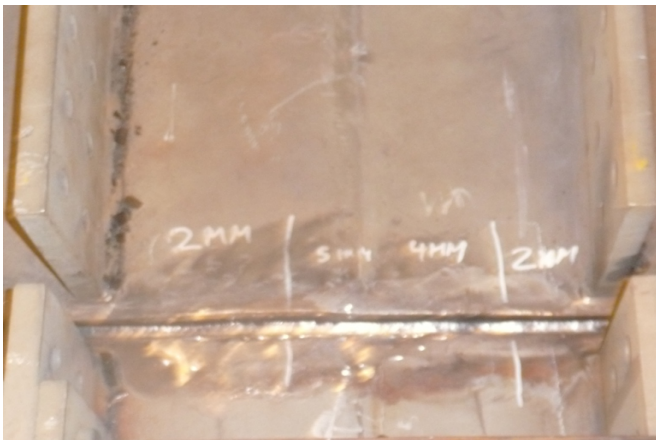
Inspector noted steam began forming in the weld joint in the area of the in process weld. The QA Inspector noted the water did come in contact with the welding arc, rather in contact with the previously welded fill pass (pictured below). The QA Inspector observed the ABF welding Foreman Jordan Hazelaar shut down the welding operation for the remainder of the shift, due to weather conditions. The QA Inspector randomly observed and noted the water intrusion was corrected with plastic tarps. No other water issues were observed on the QA Inspectors shift.

1E/2E-C-1

The QA Inspector randomly observed the ABF welders had previously started the induction heating blankets to ensure the minimum required preheat of 150°F was achieved prior to welding. Prior to the ABF welders performing the FCAW root pass, the QA Inspector randomly observed a 130mm long section of the groove, which did not meet the requirements of AWS D1.5-02 mismatch tolerances (pictured below). The QA Inspector noted a 130mm section appeared to be off set or mismatched 5mm. The QA Inspector informed the QC Inspector Bernard Docena of the issue(see summary of conversations).The QA Inspector noted an Incident Report was generated for the above described issue. The QA Inspector randomly verified utilizing a 150°F temperature indicating marker and noted the minimum required preheat had been achieved. The QA Inspector observed the ABF welder to be utilizing a semi automated FCAW track system for welding the above identified weld joint. The QA Inspector randomly observed the SE QC Inspector identified as Bernard Docena set the FCAW machine to the parameters of the approved WPS identified as ABF-WPS-D1.5-3042A-1. The QA Inspector randomly observed the FCAW parameters were 280 Amps, 24.3 Volts and a travel speed of 250mm/min. The QA Inspector randomly observed the ABF welder Jeremy Doleman continued the FCAW root pass, once the semi automated track system reached a certain point the ABF welder Rory Hogan would observe the welding arc for the remainder of the weld. After the weld was completed the QA Inspector randomly observed the QC Inspector Jesse Cayabayab perform magnetic particle testing of the root pass. The QA Inspector noted no relevant indications were located at the time of the testing.

1E/2E-D

The QA Inspector randomly observed the ABF personnel performing grinding tasks, removing the paint from the longitudinal stiffeners 1-18. The QA Inspector noted the paint was being removed in preparation of the ultrasonic testing (UT).



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Summary of Conversations:

The QA Inspector informed the SE QC Inspector Bernard Docena of the area of the 1E/2E-C-1 CJP groove weld which did not meet the mismatch tolerances of AWS D1.5-02. Mr. Docena informed the QA Inspector he was aware of the mismatch, but no additional fitting tasks would be performed. Mr. Docena went on to inform the QA Inspector the ABF welders would proceed with the welding with the current condition of the joint. The QA Inspector informed the QC Inspector ABF would be proceeding at their own risk.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mohammad Fatemi (916)-813-3677, who represents the Office of Structural Materials for your project.

Inspected By:	Bettencourt,Rick
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Quality Assurance Inspector

Reviewed By:	Levell,Bill
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QA Reviewer
